

PATENT ABSTRACTS OF JAPAN

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(54) DEVICE AND METHOD FOR PROVIDING INFORMATION, DEVICE AND
METHOD FOR PROCESSING INFORMATION, PROGRAM STORAGE MEDIUM, AND
PROGRAM

(57)Abstract:

PROBLEM TO BE SOLVED: To use desired contents in a specific place even if the free capacity of storage is small.

SOLUTION: A content database 155 stores contents and use conditions made to

correspond to user IDs. When a request to check out contents is made as well as a request to check in contents, a content managing program 154 checks in the contents at the check in request and then checks out the contents.

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CLAIMS

[Claim(s)]

[Claim 1] The storing control means which the user specification data which specify the user of an information processor are made to correspond, and controls the 1st contents, the 2nd contents, and corresponding storing of use conditions. A reception-control means to control reception of the demand of check-in of said 1st contents, and a demand of check-out of said 2nd contents with said user specification data transmitted from said information processor. The check-in control means which controls check-in of said 1st contents corresponding to the demand of said check-in based on said use conditions stored corresponding to said user specification data,

When check-in of said 1st contents is completed, it corresponds to the demand of said check-out. Information offer equipment characterized by including the check-out control means which controls check-out of said 2nd contents based on said use conditions stored corresponding to said user specification data.

[Claim 2] Said check-in control means is information offer equipment according to claim 1 characterized by controlling check-in of said 1st contents from said information processor.

[Claim 3] Said check-in control means is information offer equipment according to claim 1 characterized by controlling check-in of said 1st contents from the storage with which said information processor is equipped free [attachment and detachment].

[Claim 4] Said check-out control means is information offer equipment according to claim 1 characterized by controlling check-out of said 2nd contents to said information processor.

[Claim 5] Said check-out control means is information offer equipment according to claim 1 characterized by controlling check-out of said 2nd contents to the storage with which said information processor is equipped free [attachment and detachment].

[Claim 6] The storing control step which the user specification data which specify the user of an information processor are made to correspond, and controls the 1st contents, the 2nd contents, and corresponding storing of use conditions, The reception-control step which controls reception of the demand of check-in of said 1st contents, and a demand of check-out of said 2nd contents with said user specification data transmitted from said information processor, The check-in control step which controls check-in of said 1st contents corresponding to the demand of said check-in based on said use conditions stored corresponding to said user specification data, When check-in of said 1st contents is completed, it corresponds to the demand of said check-out. The information offer approach characterized by including the check-out control step which controls check-out of said 2nd contents based on said use conditions stored corresponding to said user specification data.

[Claim 7] The storing control step which the user specification data which specify the user of an information processor are made to correspond, and controls the 1st contents, the 2nd contents, and corresponding storing of use conditions, The reception-control step which controls reception of the demand of check-in of said 1st contents, and a demand of check-out of said 2nd contents with said user specification data transmitted from said information processor, The check-in control step which controls check-in of said 1st contents corresponding to the demand of said check-in based on said use conditions stored corresponding to said user specification data, When check-in of said 1st contents is completed, it corresponds to the demand of said check-out. The program storing medium by which the program which the computer characterized by including the check-out control step which controls check-out of said 2nd contents based on said use conditions stored corresponding to

said user specification data can read is stored.

[Claim 8] The storing control step which the user specification data which specify the user of an information processor are made to correspond, and controls the 1st contents, the 2nd contents, and corresponding storing of use conditions, The reception-control step which controls reception of the demand of check-in of said 1st contents, and a demand of check-out of said 2nd contents with said user specification data transmitted from said information processor, The check-in control step which controls check-in of said 1st contents corresponding to the demand of said check-in based on said use conditions stored corresponding to said user specification data, When check-in of said 1st contents is completed, it corresponds to the demand of said check-out. The program which makes a computer perform the check-out control step which controls check-out of said 2nd contents based on said use conditions stored corresponding to said user specification data.

[Claim 9] With the demand of check-in of the 1st contents to information offer equipment A transmission-control means to control transmission of a demand of check-out of the 2nd contents, The check-in control means which controls check-in of said 1st contents based on control of said information offer equipment, The information processor characterized by including the check-out control means which controls check-out of said 2nd contents offered from said information offer equipment when check-in of said 1st contents is completed.

[Claim 10] Said check-in control means is an information processor according to claim 9 characterized by controlling check-in of said 1st contents from the storage built in.

[Claim 11] Said check-in control means is an information processor according to claim 9 characterized by controlling check-in of said 1st contents from the storage with which it is equipped free [attachment and detachment].

[Claim 12] Said check-out control means is an information processor according to claim 9 characterized by controlling check-out of said 2nd contents to the storage built in.

[Claim 13] Said check-out control means is an information processor according to claim 9 characterized by controlling check-out of said 2nd contents to the storage with which it is equipped free [attachment and detachment].

[Claim 14] With the demand of check-in of the 1st contents to information offer equipment The transmission-control step which controls transmission of a demand of check-out of the 2nd contents, The check-in control step which controls check-in of said 1st contents based on control of said information offer equipment, The information processing approach characterized by including the check-out control step which controls check-out of said 2nd contents offered from said information offer equipment when check-in of said 1st contents is completed.

[Claim 15] With the demand of check-in of the 1st contents to information offer

equipment The transmission-control step which controls transmission of a demand of check-out of the 2nd contents, The check-in control step which controls check-in of said 1st contents based on control of said information offer equipment, When check-in of said 1st contents is completed, The program storing medium by which the program which the computer characterized by including the check-out control step which controls check-out of said 2nd contents offered from said information offer equipment can read is stored.

[Claim 16] With the demand of check-in of the 1st contents to information offer equipment The transmission-control step which controls transmission of a demand of check-out of the 2nd contents, The check-in control step which controls check-in of said 1st contents based on control of said information offer equipment, The program which makes a computer perform the check-out control step which controls check-out of said 2nd contents offered from said information offer equipment when check-in of said 1st contents is completed.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] Especially this invention relates to a program at the information offer equipment and the approach of managing or offering the contents used for information offer equipment and an approach, an information processor and an approach, a program storing medium, and a list based on use conditions about a program, an information processor and an approach, a program storing medium, and a list.

[0002]

[Description of the Prior Art] Drawing 1 is drawing showing the configuration of the conventional digital data transmission system. The personal computer 1-1 is connected to the network 3 which consists of a Local Area Network or the Internet. Through a network 3, from the shop server 4, a personal computer 1 receives the data (contents are called hereafter) of musical sound with the use conditions of contents, is made to correspond to use conditions, and records contents. The contents which received from the shop server 4 are enciphered with cipher systems, such as DES (Data Encryption Standard), while encoding by the method (for example, ATRAC3 (trademark)) of predetermined compression.

[0003] Use conditions show the number (number of the so-called PD which can be checked out mentioned later) of the portable device 2 (Portable Device (it is also called PD)) which can use the contents corresponding to the use condition for

coincidence. Even when only the number shown in use conditions checks out contents, a personal computer 1-1 can reproduce the contents.

[0004] A personal computer 1-1 inputs directions of check-out etc., and makes the software module (LCM (Licensed Compliant Module) is called hereafter) based on the specification of SDMI (Secure Digital Music Initiative) which is not illustrated perform processing of the check-out corresponding to the directions etc. while it displays the data (for example, a music name or use conditions etc.) relevant to the contents which the personal computer 1-1 is recording.

[0005] LCM of a personal computer 1-1 consists of module groups which control to be able to use contents only on the use conditions which a copyright person specifies to each contents for the purpose of prevention of infringement of the copyright by unjust secondary use of contents. Playback conditions, copy conditions, migration conditions, or are recording conditions of contents etc. are included in use conditions.

[0006] LCM of a personal computer 1-1 attests whether the device connected to the personal computer 1-1 is just, and performs processing of migration of contents etc. by the safe approach. With processing of migration of contents etc., LCM generates a required key, manages a key, enciphers contents or controls the communication link with the device connected.

[0007] Moreover, LCM of a personal computer 1-1 checks the justification of the portable device 2 connected, adds the use conditions specified by the shop server 4 to contents (enciphered), and makes contents record on the portable device 2.

[0008] LCM of a personal computer 1-1 updates the use conditions corresponding to the contents which supplied them corresponding to having supplied the portable device 2 with the data (for example, a music name or use conditions etc.) relevant to contents while supplying the contents currently enciphered and recorded to the portable device 2 connected (check-out is called hereafter). More, in a detail, when you check out, LCM reduces 1 from the count which can check out the use conditions corresponding to the contents which the personal computer 1-1 is recording. Corresponding contents cannot be checked out when the count which can be checked out is 0.

[0009] The portable device 2 is stored in storages, such as a flash memory which has the contents (namely, checked-out contents) supplied from the personal computer 1-1 in the interior with the data (for example, a music name or use conditions etc.) relevant to contents.

[0010] Based on the use conditions corresponding to contents, the portable device 2 is reproduced and outputs the contents memorized to the headphone which are not illustrated.

[0011] For example, when it is going to reproduce exceeding the count of playback as a playback limit memorized as use conditions corresponding to contents, the portable device 2 suspends playback of the contents.

[0012] A user can remove the portable device 2 which memorized contents from a personal computer 1-1, can carry around, can reproduce the contents memorized, and can listen to the music corresponding to contents etc. by headphone etc.

[0013] When the portable device 2 is connected to a personal computer 1-1 through a USB cable etc., the portable device 2 and a personal computer 1-1 perform processing of mutual recognition. Processing of this mutual recognition is processing of authentication of a challenge response method. A challenge response method is a method which answers with the value (response) which the portable device 2 generated using the private key currently shared with a personal computer 1-1 to a certain value (challenge) which a personal computer 1-1 generates.

[0014] When the copy of the contents purchased from the shop server 4 is not permitted (specified on use conditions), even if it copies the contents to a personal computer 1-2 from a personal computer 1-1, a personal computer 1-2 cannot use the copied contents.

[0015] Similarly, when you check out contents to the portable device 2, the portable device 2 does not permit copying the contents to a personal computer 1-3 further.

[0016] The shop server 4 distributes the contents which compression coding is carried out by the predetermined method, accumulate the contents enciphered, and are accumulated corresponding to the demand from a personal computer 1-1. The shop server 4 accumulates the contents key for decoding the contents supplied to the personal computer 1-1, and supplies a contents key to a personal computer 1-1. Before supply of contents, the shop server 4 and a personal computer 1-1 perform processing of mutual recognition, and the shop server 4 enciphers a contents key with a key temporarily which was shared by processing of the mutual recognition, and transmits them to a personal computer 1-1. A personal computer 1-1 is decoded with a key temporarily which is sharing the received contents key.

[0017] The accounting server 5 performs processing using the number of the credit card of the user of a personal computer 1-1 etc. to pay corresponding to the request from a personal computer 1-1, after performing processing of mutual recognition with a personal computer 1-1, when a personal computer 1-1 purchases contents from the shop server 4.

[0018] Next, the processing whose personal computer 1-1 purchases contents is explained with reference to the flow chart of drawing 2. In step S11, a personal computer 1-1 attests the shop server 4 through a network 3. In step S21, the shop server 4 attests a personal computer 1-1 through a network 3.

[0019] The master key KMS is beforehand memorized by the shop server 4, and ID (Identification) of the individual key KPP and a personal computer 1-1 is beforehand memorized by the personal computer 1-1. The master key KMP is further memorized beforehand by the personal computer 1-1, and ID and the individual key KPS of the shop server 4 are memorized by the shop server 4.

[0020] The shop server 4 receives supply of ID of a personal computer 1-1 to the personal computer 1-1, applies a Hash Function to the master key KMS which the ID and themselves have, and generates the same key as the individual key KPP of a personal computer 1-1.

[0021] A personal computer 1-1 receives supply of ID of the shop server 4 to the shop server 4, applies a Hash Function to the master key KMP which the ID and themselves have, and generates the same key as the individual key KPS of the shop server 4. A personal computer 1-1 and an individual key common to both shop servers 4 will be shared between doing in this way. A key is further generated temporarily using these individual keys.

[0022] In step S12, a personal computer 1-1 transmits the purchase demand of desired contents to the shop server 4 through a network 3. In step S22, the shop server 4 receives the purchase demand of the contents from a personal computer 1-1.

[0023] In step S23, the shop server 4 transmits the contents corresponding to the purchase demand which received by processing of step S22 to a personal computer 1-1 through a network 3. In step S13, a personal computer 1-1 receives the contents which the shop server 4 transmitted. In step S14, a personal computer 1-1 stores the contents which received by processing of step S13.

[0024] In step S15, a personal computer 1-1 attests the accounting server 5 through a network 3. In step S31, the accounting server 5 attests a personal computer 1-1 through a network 3.

[0025] In step S16, a personal computer 1-1 transmits the request to pay to the accounting server 5 through a network 3. The request of payment is enciphered with the key temporarily which was generated by processing of authentication including the number of the credit card of the user of a personal computer 1-1 etc. In step S32, the accounting server 5 receives a request of the payment which the personal computer 1-1 transmitted. In step S33, the accounting server 5 performs processing to a credit card company to pay based on a request of the payment which received by processing of step S32, and ends processing.

[0026] Next, the processing whose personal computer 1-1 checks out contents to the portable device 2 is explained with reference to the flow chart of drawing 3. In step S51, a personal computer 1-1 chooses the contents to check out corresponding to actuation of a user.

[0027] In step S52, a personal computer 1-1 transmits the contents chosen by processing of step S51 to the portable device 2 with use conditions. In step S53, a personal computer 1-1 updates the use conditions corresponding to the contents which transmitted to the portable device 2 (1 is reduced from the count which can be checked out).

[0028] In step S61, the portable device 2 receives the contents which the personal computer 1-1 transmitted with use conditions. In step S62, the portable device 2

memorizes the contents which received by processing of step S61 with use conditions, and ends processing.

[0029]

[Problem(s) to be Solved by the Invention] However, he was not able to check out desired contents from a personal computer 1-1 to the portable device 2 at the point with which it walked around.

[0030] Moreover, if the availability of storage of the portable device 2 was not fully large, he was not able to check out contents.

[0031] This invention is made in view of such a situation, and even if it is a case with few availabilities of storage, it is a desired location and aims at enabling it to use desired contents.

[0032]

[Means for Solving the Problem] The storing control means which the information offer equipment of this invention is made to correspond to the user specification data which specify the user of an information processor, and controls the 1st contents, the 2nd contents, and corresponding storing of use conditions, A reception-control means transmitted from the information processor to control reception of the demand of check-in of the 1st contents, and a demand of check-out of the 2nd contents with user specification data, The check-in control means which controls check-in of the 1st contents based on the use conditions stored corresponding to user specification data corresponding to the demand of check-in, When check-in of the 1st contents is completed, it is characterized by including the check-out control means which controls check-out of the 2nd contents based on the use conditions stored corresponding to user specification data corresponding to the demand of check-out.

[0033] The information offer equipment of this invention can be made into the management server mentioned later, for example.

[0034] An information processor can be set to the portable telephone and personal computer which are mentioned later, or PDA, for example.

[0035] A check-in control means can control check-in of the 1st contents from an information processor.

[0036] A check-in control means can control check-in of the 1st contents from the storage with which the information processor is equipped free [attachment and detachment].

[0037] A check-out control means can control check-out of the 2nd contents to an information processor.

[0038] A check-out control means can control check-out of the 2nd contents to the storage with which the information processor is equipped free [attachment and detachment].

[0039] The storing control step which the information offer approach of this invention is made to correspond to the user specification data which specify the user of an

information processor, and controls the 1st contents, the 2nd contents, and corresponding storing of use conditions, The reception-control step which was transmitted from the information processor and which controls reception of the demand of check-in of the 1st contents, and a demand of check-out of the 2nd contents with user specification data, The check-in control step which controls check-in of the 1st contents based on the use conditions stored corresponding to user specification data corresponding to the demand of check-in, When check-in of the 1st contents is completed, it is characterized by including the check-out control step which controls check-out of the 2nd contents based on the use conditions stored corresponding to user specification data corresponding to the demand of check-out.

[0040] The program of the 1st program storing medium of this invention The storing control step which the user specification data which specify the user of an information processor are made to correspond, and controls the 1st contents, the 2nd contents, and corresponding storing of use conditions, The reception-control step which was transmitted from the information processor and which controls reception of the demand of check-in of the 1st contents, and a demand of check-out of the 2nd contents with user specification data, The check-in control step which controls check-in of the 1st contents based on the use conditions stored corresponding to user specification data corresponding to the demand of check-in, When check-in of the 1st contents is completed, it is characterized by including the check-out control step which controls check-out of the 2nd contents based on the use conditions stored corresponding to user specification data corresponding to the demand of check-out.

[0041] The storing control step which the 1st program of this invention is made to run on the user specification data which specify the user of an information processor, and controls the 1st contents, the 2nd contents, and corresponding storing of use conditions, The reception-control step which was transmitted from the information processor and which controls reception of the demand of check-in of the 1st contents, and a demand of check-out of the 2nd contents with user specification data, The check-in control step which controls check-in of the 1st contents based on the use conditions stored corresponding to user specification data corresponding to the demand of check-in, When check-in of the 1st contents is completed, it corresponds to the demand of check-out. It is characterized by making a computer perform the check-out control step which controls check-out of the 2nd contents based on the use conditions stored corresponding to user specification data.

[0042] The information processor of this invention with the demand of check-in of the 1st contents to information offer equipment A transmission-control means to control transmission of a demand of check-out of the 2nd contents, The check-in control means which controls check-in of the 1st contents based on control of information

offer equipment, When check-in of the 1st contents is completed, it is characterized by including the check-out control means which controls check-out of the 2nd contents offered from information offer equipment.

[0043] The information processor of this invention can be set to the portable telephone and personal computer which are mentioned later, or PDA, for example.

[0044] Information offer equipment can be made into the management server mentioned later, for example.

[0045] A check-in control means can control check-in of the 1st contents from the storage built in.

[0046] A check-in control means can control check-in of the 1st contents from the storage with which it is equipped free [attachment and detachment].

[0047] A check-out control means can control check-out of the 2nd contents to the storage built in.

[0048] A check-out control means can control check-out of the 2nd contents to the storage with which it is equipped free [attachment and detachment].

[0049] The information processing approach of this invention with the demand of check-in of the 1st contents to information offer equipment The transmission-control step which controls transmission of a demand of check-out of the 2nd contents, The check-in control step which controls check-in of the 1st contents based on control of information offer equipment, When check-in of the 1st contents is completed, it is characterized by including the check-out control step which controls check-out of the 2nd contents offered from information offer equipment.

[0050] The program of the 2nd program storing medium of this invention With the demand of check-in of the 1st contents to information offer equipment The transmission-control step which controls transmission of a demand of check-out of the 2nd contents, The check-in control step which controls check-in of the 1st contents based on control of information offer equipment, When check-in of the 1st contents is completed, it is characterized by including the check-out control step which controls check-out of the 2nd contents offered from information offer equipment.

[0051] The 2nd program of this invention with the demand of check-in of the 1st contents to information offer equipment The transmission-control step which controls transmission of a demand of check-out of the 2nd contents, The check-in control step which controls check-in of the 1st contents based on control of information offer equipment, When check-in of the 1st contents is completed, it is characterized by making a computer perform the check-out control step which controls check-out of the 2nd contents offered from information offer equipment.

[0052] It sets to the 1st program at the information offer equipment of this invention and an approach, the 1st program storing medium, and a list. With the user specification data which the user specification data which specify the user of an

information processor were made to correspond, and the 1st contents, the 2nd contents, and corresponding storing of use conditions were controlled, and were transmitted from the information processor Reception of the demand of check-in of the 1st contents and a demand of check-out of the 2nd contents is controlled, and it corresponds to the demand of check-in. When check-in of the 1st contents is controlled and check-in of the 1st contents is completed based on the use conditions stored corresponding to user specification data, it corresponds to the demand of check-out. Check-out of the 2nd contents is controlled based on the use conditions stored corresponding to user specification data.

[0053] It sets to the 2nd program at the information processor of this invention and an approach, the 2nd program storing medium, and a list. With the demand of check-in of the 1st contents to information offer equipment Transmission of a demand of check-out of the 2nd contents is controlled, and it is based on control of information offer equipment. When check-in of the 1st contents is controlled and check-in of the 1st contents is completed, check-out of the 2nd contents offered from information offer equipment is controlled.

[0054]

[Embodiment of the Invention] Drawing 4 is drawing showing the gestalt of 1 operation of the digital data transmission system concerning this invention. The same number as the case of drawing 1 is given to the same part as the case of a configuration of that drawing 1 explained, and the explanation is omitted.

[0055] A portable telephone 11 is connected to a network 3 by wireless. A portable telephone 11 receives the contents (compressed and enciphered by the predetermined method) which received from the management server 14 with use conditions, a contents key, etc. through a network 3, and memorizes contents, use conditions, and a contents key.

[0056] Based on the use conditions corresponding to contents, a portable telephone 11 is reproduced and outputs the memorized contents to headphone or a loudspeaker etc. which is not illustrated. A user can make desired contents receive and memorize from the management server 14 in a desired location, walking around with a portable telephone 11. A user can make a portable telephone 11 able to reproduce the contents memorized, and can listen to the music corresponding to contents etc. by headphone etc.

[0057] A portable telephone 11 performs processing corresponding to the inputted directions of download while displaying the data (for example, a music name or use conditions etc.) relevant to contents.

[0058] The program (for example, with reference to drawing 7, it mentions later) of a portable telephone 11 consists of module groups which control to be able to use contents only on the use conditions which a copyright person specifies to each contents for the purpose of prevention of infringement of the copyright by unjust

secondary use of contents. Playback conditions, copy conditions, migration conditions, or are recording conditions of contents etc. are included in use conditions.

[0059] The program of a portable telephone 11 adds the use conditions and contents key which the shop server 4 specified by the safe approach to contents (enciphered), and makes contents record on the memory inside a portable telephone 11 etc.

[0060] The personal computer 12 is connected to the network 3. With cipher systems, such as DES, it enciphers and a personal computer 12 records it while changing into a predetermined compression method the contents which received from the management server 14 and a contents key, or the contents read in CD which is not illustrated and the contents key then generated. A personal computer 12 records the use conditions which show the use conditions of contents corresponding to the contents currently enciphered and recorded.

[0061] The program which a personal computer 12 does not illustrate performs processing of the download corresponding to directions of the inputted download or check-out etc., or check-out while displaying the data (for example, a music name or use conditions etc.) relevant to contents.

[0062] The program of a personal computer 12 consists of module groups which control to be able to use contents only on the use conditions which a copyright person specifies to each contents for the purpose of prevention of infringement of the copyright by unjust secondary use of contents. Playback conditions, copy conditions, migration conditions, or are recording conditions of contents etc. are included in use conditions.

[0063] The program of a personal computer 12 performs processing of migration of contents etc. by the safe approach. With processing of migration of contents etc., the program of a personal computer 12 generates a required key, manages a key, enciphers contents or controls the communication link with the device connected.

[0064] Since PDA (Personal Digital Assistant)13 is the same as that of a personal computer 12, the explanation is omitted.

[0065] The management server 14 corresponds to the demand of the purchase of the contents of the portable telephone 11 which carried out mutual recognition, the personal computer 12 which carried out mutual recognition, or PDA13 which carried out mutual recognition. Perform processing of mutual recognition with the shop server 4, and a portable telephone 11, a personal computer 12, or the contents corresponding to the demand of PDA13 is received with use conditions and a contents key from the attested shop server 4. It is made to correspond to a portable telephone 11, a personal computer 12, or the user ID that specifies the user of PDA13, and the contents, a contents key, and use conditions are stored in the interior.

[0066] When a portable telephone 11, a personal computer 12, or the contents corresponding to the demand of PDA13 is received, the management server 14 performs processing of the accounting server 5 and mutual recognition, and transmits

the request corresponding to the contents which received to the accounting server 5 to pay.

[0067] The accounting server 5 performs processing using the number of a portable telephone 11, a personal computer 12, or the credit card of the user of PDA13 etc. to pay corresponding to the request from the management server 14, after performing processing of mutual recognition with the management server 14.

[0068] A portable telephone 11, a personal computer 12, or PDA13 carries out mutual recognition to the management server 14, only transmits the demand of the purchase of contents, can make the management server 14 able to download desired contents, and can make accounting process.

[0069] The user of a portable telephone 11, a personal computer 12, or PDA13 makes a portable telephone 11, a personal computer 12, or PDA13 move, copy or check out the contents which the management server 14 was made to download. Hereafter, check-out is represented and it explains. A portable telephone 11, a personal computer 12, or PDA13 can reproduce the checked-out contents according to use conditions.

[0070] Drawing 5 is drawing explaining the configuration of a portable telephone 11. CPU (Central Processing Unit)31 actually performs the various programs stored in ROM (Read-only Memory)32 or RAM (Random-Access Memory)33. ROM32 consists of an EEPROM (Electrically Erasable Programmable Read-Only Memory) or a flash memory, and, generally stores the data of immobilization fundamentally of the parameters the program which CPU31 uses, and for an operation. RAM33 consists of SRAM (Static RAM) etc., and stores a variable parameter suitably in the program used in activation of CPU31, and its activation.

[0071] The input section 35 is operated by the user, when it consists of an input key or a microphone and various kinds of commands are inputted into CPU31, or when inputting voice etc. A display 36 consists of a liquid crystal display etc., and displays various information in a text or an image.

[0072] The voice playback section 37 reproduces the contents supplied from audio data or the audio storage section 39 of the message partner supplied from the communications department 38, and outputs voice.
 [0073] The communications department 38 connects with a network 3 through the public line network 121 (with reference to drawing 7 , it mentions later), stores in the packet of a predetermined method the data of a user's voice supplied from the data (for example, demand of check-out of contents etc.) or the input section 35 supplied from CPU31, and transmits through the public line network 121 and a network 3. Moreover, the communications department 38 outputs the data (for example, contents etc.) stored in the packet which received, or the data of a message partner's voice to CPU31, RAM33, the voice playback section 37, or the storage section 39 through the public line network 121 and a network 3.

[0074] The storage section 39 consists of flash memories etc., reads data, such as contents, a contents key, and use conditions, and supplies them to CPU31, RAM33, or the voice playback section 37 while making the contents supplied from the communications department 38 memorize with corresponding use conditions, a contents key, etc.

[0075] As for an interface 40, the external drive 51 is connected. Drive 51 reads the data or the program currently recorded on the magnetic disk 61 with which it is equipped, an optical disk 62 (CD-ROM is included), a magneto-optic disk 63, or semiconductor memory 64, and supplies the data or program to ROM32 or RAM33 which are connected through the interface 40 and the bus 34.

[0076] CPU31 thru/or the interface 40 are mutually connected by the bus 34.

[0077] Since the configuration of a personal computer 12 and PDA13 is the same configuration as a portable telephone 11, the explanation is omitted.

[0078] Drawing 6 is drawing explaining the configuration of the management server 14. CPU81 actually performs various application programs (for details, it mentions later) and OS (Operating System). Generally ROM82 stores the data of immobilization fundamentally of the parameters the program which CPU81 uses, and for an operation. RAM83 stores a variable parameter suitably in the program used in activation of CPU81, and its activation. These are mutually connected by the host bus 84 which consists of CPU buses etc.

[0079] The host bus 84 is connected to the external buses 86, such as a PCI (Peripheral Component Interconnect/Interface) bus, through the bridge 85.

[0080] A keyboard 88 is operated by the user when inputting various kinds of commands into CPU81. A pointing device 89 is operated by the user when performing the directions and selection of the point on the screen of a display 63. A display 90 consists of a liquid crystal display or CRT (Cathode Ray Tube), and displays various information in a text or an image. HDD (Hard Disk Drive)91 drives a hard disk, and records or reproduces the program and information which are performed by CPU81 to them.

[0081] Drive 92 reads the data or the program currently recorded on the magnetic disk 101 with which it is equipped, an optical disk 102, a magneto-optic disk 103, or semiconductor memory 104, and supplies the data or program to RAM83 with which it connects through the interface 87, the external bus 86, the bridge 85, and the host bus 84.

[0082] These keyboards 88 thru/or drives 92 is connected to the interface 87, and the interface 87 is connected to CPU81 through the external bus 86, the bridge 85, and the host bus 84.

[0083] The communications department 93 outputs the data (for example, contents etc.) stored in the packet which received to CPU81, RAM83, or HDD91 through a network 3 while a network 3 is connected, and it stores in the packet of a

predetermined method the data (for example, contents etc.) supplied from CPU81 or HDD91 and transmits through a network 3.

[0084] The communications department 93 is connected to CPU81 through the external bus 86, the bridge 85, and the host bus 84.

[0085] Since it has the same configuration as the management server 14, the shop server 4 and the accounting server 5 omit the explanation.

[0086] Next, with reference to drawing 7, the example of the configuration of the 1st function of the digital data transmission system of this application is explained.

[0087] A portable telephone 11 performs the authentication program 141, the purchase directions program 142, the display operator guidance program 143, the contents manager 144, the contents playback program 145, a communications program 146, etc.

[0088] The authentication program 141 attests the management server 14 or the shop server 4 through the public line network 121 and a network 3. The authentication program 141 may attest a user using the input section 151.

[0089] The purchase directions program 142 transmits the demand of the purchase of contents to the management server 14 through the public line network 121 and a network 3. User ID, Device ID, the content ID of the contents to demand, and the processing demand after download (check-out, migration, a copy, null) are included in a demand.

[0090] The display operator guidance program 143 receives the data (for example, a music name or use conditions etc.) relevant to the contents which the management server 14 makes correspond to the user ID of the user of a portable telephone 11, and stores from the management server 14 through the public line network 121 and a network 3, and displays the data relevant to the contents on a display 36.

[0091] The display operator guidance program 143 reads the data (for example, a music name or use conditions etc.) relevant to the contents memorized by the storage section 39 from the storage section 39, and is made to display them on a display 36.

[0092] The display operator guidance program 143 makes the contents manager 144 perform processing of check-out etc., when directions of check-out etc. are inputted corresponding to actuation of the input section 35. The display operator guidance program 143 makes the radical of management of the use of contents based on the use conditions by the contents manager 144 perform processing of playback of contents (the storage section 39 memorizes) to the contents playback program 145, when directions of playback of contents are inputted corresponding to actuation of the input section 35.

[0093] The contents manager 144 is a program for requiring check-out or check-in of contents of the management server 14 while managing the use of contents based on the use conditions of contents.

[0094] The contents manager 144 updates the use conditions corresponding to the contents corresponding to playback of the contents memorized in the storage section 39 etc. while performing management of whether playback of the contents memorized by the storage section 39 etc. is permitted based on the use conditions of contents, or to forbid.

[0095] When check-out of desired contents is required of the management server 14, the contents manager 144 receives the contents which the management server 14 transmitted, a contents key, the use conditions of contents, etc., is made to run on a contents key and use conditions, and makes the storage section 39 memorize the contents which received.

[0096] The contents manager 144 eliminates the contents which are memorized by the storage section 39 and which required check-in, a contents key, and use conditions, when check-in of desired contents is required of the management server 14.

[0097] When playback of contents is permitted by the contents manager 144, the contents playback program 145 decodes the contents memorized by the storage section 39, and makes the voice corresponding to contents output to the voice playback section 37.

[0098] A communications program 146 is a program for connecting with ISP (Internet Service Provider)122 through the public line networks 121, such as PHS (Personal Handyphone System) or IMT (International Mobile Telecommunication System). A communications program 146 is a program for including procedures, such as IP (Internet Protocol), HTTP (Hypertext Transport Protocol), and Wap (Wireless Access Protocol), and communicating with the shop server 4, the accounting server 5, the management server 14, etc. through a network 3.

[0099] When the authentication program 141 thru/or the contents manager 144 give a demand etc. for the demand of the purchase of contents, or check-out of contents to the management server 14 through the public line network 121 and a network 3, the authentication program 141 thru/or the contents manager 144 make the data which were made to transmit the data corresponding to a demand etc. for the demand of the purchase of contents, or check-out of contents to a communications program 146, and the management server 14 transmitted to it receive.

[0100] Since it has the configuration of the same function as a portable telephone 11, a personal computer 11 and PDA13 omit the explanation.

[0101] The management server 14 performs the authentication program 151, the contents purchase processing program 152, the payment processing program 153, the contents manager 154, the contents database 155, and a communications program 156.

[0102] The authentication program 151 is a program which attests a portable telephone 11, a personal computer 12, PDA13, the shop server 4, or the accounting

server 5.

[0103] The contents purchase processing program 152 is a program which performs processing which purchases the contents corresponding to the demand of the purchase from the shop server 4, when the demand of the purchase of contents is carried out from a portable telephone 11, a personal computer 12, or PDA13.

[0104] The contents purchase processing program 152 transmits the demand of the purchase of the contents to the shop server 4 corresponding to the demand of the purchase of the desired contents transmitted from a portable telephone 11, a personal computer 12, or PDA13. When contents, a contents key, and use conditions are transmitted from the shop server 4, the contents purchase processing program 152 receives the contents, a contents key, and use conditions, and makes the contents which received, a contents key, and use conditions store in the contents database 155.

[0105] It pays, and a processing program 153 transmits the request paid to the accounting server 5 through a network 3 based on the data currently recorded on the user managed table 161, when contents are purchased. The contents purchase processing program 152 directs processing to the contents manager 154 according to the processing demand after the download included in the purchase demand of contents. The name of the user who purchased contents, the number of a credit card, the address, etc. are contained in the request which the payment processing program 153 transmits to the accounting server 5 and to pay.

[0106] As shown in drawing 8, the user managed table 161 makes it correspond to a portable telephone 11, a personal computer 12, or the user ID that specifies the user of PDA13, and stores the device ID which specifies the device which the number of a credit card, a name, the address, a mail address, and its user use.

[0107] In the example of the user managed table 161 shown in drawing 8, for example, the number of the credit card of the user whose user ID is "AAA" The name of the user whose user ID is "III" and is "AAA" The address of the user whose user ID it is "AIU" and is "AAA" The devices ID of the device which the user whose user ID the mail address of the user whose user ID it is "Iroha" and is "AAA" is "abc", and is "AAA" uses are "X789" and "Z213."

[0108] The devices ID of the device which the user whose user ID the mail address of the user whose user ID the address of the user whose user ID the name of the user whose user ID the number of the credit card of the user whose user ID is "BBB" is "RORORORO", and is "BBB" is "KAKIKU", and is "BBB" is "NIHOHE", and is "BBB" is "def", and is "BBB" uses are "Y654" and "W423."

[0109] When the contents which the contents database 155 purchased, a contents key, and use conditions are stored, the contents manager 154 is made to run on the user ID of the user who purchased the contents, and stores the content ID which specifies the purchased contents, and its use condition in the contents managed table

162.

[0110] As shown in drawing 9, the contents managed table 162 is made to correspond to a portable telephone 11, a personal computer 12, or the user ID that specifies the user of PDA13, and stores content ID, use conditions (for example, count which can be checked out), or Device ID.

[0111] The count in the example of the contents managed table 162 shown in drawing 9 which can be checked out shows the count which can check out corresponding contents, and Device ID is ID which specifies the devices (for example, a portable telephone 11, a personal computer 12, or PDA13 etc.) which checked out the contents.

[0112] For example, in the example shown in drawing 9, the device ID of the device by which he is checked out in the contents whose content ID the count of the contents whose content ID the user ID of the user who purchased the contents whose content ID is "A123" is "AAA", and is "A123" which can be checked out is 2 times (he can check out twice further), and is "A123" is "X789" (for example, it corresponds to a portable telephone 11).

[0113] The device ID of the device by which he is checked out in the contents whose content ID the count of the contents whose content ID the user ID of the user who purchased the contents whose content ID is "D666" is "BBB", and is "D666" which can be checked out is 2 times, and is "D666" is "Y654" (for example, it corresponds to a personal computer 12).

[0114] When the contents manager 154 has the demand (content ID and Device ID are attached) of the check-out from a portable telephone 11, a personal computer 12, PDA13, or the contents purchase processing program 152, Based on the data stored in the contents managed table 162, it judges whether it is the demand from the user who purchased the contents. When judged with it being the demand from the user who purchased the contents, it judges further whether the count which can check out the contents is one or more.

[0115] When judged with the count which can check out the contents being one or more, the contents manager 154 reads the contents corresponding to content ID, a contents key, and use conditions from the contents database 155, and transmits to the portable telephone 11 which required check-out, a personal computer 12, or PDA13 through a network 3.

[0116] Contents are not transmitted, when judged with the contents manager 154 not being the demand from the user who purchased the contents, or when it is judged with the count which can check out the contents being one or more.

[0117] In addition, a portable telephone 11, a personal computer 12, or PDA13 attaches content ID and user ID to the demand of check-out, and it may be made to transmit to the management server 14, and in this case, based on content ID and user ID, the management server 14 chooses contents and it transmits it.

[0118] The contents manager 154 records the device ID of the device which transmitted contents on the contents managed table 162 while reducing 1 from the count of contents which is stored in the contents managed table 162 and which can be checked out, when contents are transmitted to a portable telephone 11, a personal computer 12, or PDA13.

[0119] The contents manager 154 eliminates the device ID currently recorded corresponding to the content ID from the contents managed table 162 while adding 1 to the count of the contents which received with the demand, which are stored in the contents managed table 162 content ID and based on Device ID and at which he checks in which can be checked out, when there is a demand of check-in of a portable telephone 11, a personal computer 12, or PDA13 to contents to contents.

[0120] The contents transmitted from the shop server 4 are related with the contents key corresponding to the contents, and use conditions, and the contents database 155 stores them, when contents are purchased. The contents database 155 supplies the contents corresponding to a demand, a contents key, and its use condition to the contents manager 154, when read-out accompanying check-out of contents is required from the contents manager 154.

[0121] The contents database 155 updates the use conditions of the contents corresponding to a demand, when renewal of the use conditions accompanying check-in of contents is required from the contents manager 154.

[0122] A communications program 156 is a program for including procedures, such as IP, HTTP, and Wap, and communicating with the shop server 4, the accounting server 5, a portable telephone 11, a personal computer 12, PDA13, etc. through a network 3.

[0123] The shop server 4 performs the contents information distribution program 181, the authentication program 182, the contents manager 183, the contents database 184, the key manager 185, and a communications program 186.

[0124] The contents information distribution program 181 is a program which supplies the information on contents (a music name, an artist name, the matched image, performance time amount, price, etc.) to the portable telephone 11 which required offer, a personal computer 12, or PDA13 through a network 3, when offer of the information on contents is required from a portable telephone 11, a personal computer 12, or PDA13.

[0125] The authentication program 182 is a program which attests the management server 14.

[0126] When there is a demand of the purchase of contents from the management server 14, the contents manager 183 reads contents and the use conditions of the contents from the contents database 184, reads the contents key corresponding to the contents from the key manager 185, and transmits contents, a contents key, and use conditions to the management server 14 through a network 3.

[0127] The contents database 184 is made to correspond to use conditions, records

contents, and supplies contents and use conditions to the contents manager 183 corresponding to the demand of read-out from the contents manager 183.

[0128] The key manager 185 has generated and memorized the contents key for decoding the contents which the contents database 184 stores. The key manager 185 supplies a contents key to the contents manager 183, when a contents key is required from the contents manager 183.

[0129] A communications program 186 is a program for including procedures, such as IP, HTTP, and Wap, and communicating with the management server 14 etc. through a network 3.

[0130] The accounting server 5 performs the authentication program 187, the accounting program 188, a communications program 189, etc. The authentication program 187 is a program which attests the management server 14.

[0131] The accounting program 188 performs processing using the number of the credit card of the user corresponding to the request to pay etc. to pay, when there is a request of payment from the management server 14.

[0132] A communications program 189 is a program for including procedures, such as IP, HTTP, and Wap, and communicating with the management server 14 etc. through a network 3.

[0133] Next, processing of the purchase of contents is explained with reference to the flow chart of drawing 10. In step S1101, the authentication program 141 of a portable telephone 11 attests a user using the input section 35, and attests the management server 14 through a network 3. In step S1201, the authentication program 151 of the management server 14 attests a portable telephone 11.

[0134] The master key KMK is beforehand memorized by the management server 14, and ID of the individual key KPT and a portable telephone 11 is beforehand memorized by the portable telephone 11. The master key KMT is further memorized beforehand by the portable telephone 11, and ID and the individual key KPK of the management server 14 are memorized by the management server 14.

[0135] The management server 14 receives supply of ID of a portable telephone 11 to the portable telephone 11, applies a Hash Function to the master key KMK which the ID and themselves have, and generates the same key as the individual key KPT of a portable telephone 11.

[0136] A portable telephone 11 receives supply of ID of the management server 14 to the management server 14, applies a Hash Function to the master key KMT which the ID and themselves have, and generates the same key as the individual key KPK of the management server 14. A portable telephone 11 and an individual key common to both management servers 14 will be shared between doing in this way. A key is further generated temporarily using these individual keys.

[0137] In step S1102, the purchase directions program 142 of a portable telephone 11 transmits the purchase demand of contents to the management server 14 through a

network 3 with the device ID of the content ID corresponding to the contents for which it asks, and a portable telephone 11, user ID, the processing demand after download, etc. In step S1202, the contents purchase processing program 152 of the management server 14 receives the purchase demand of the contents from a portable telephone 11.

[0138] In step S1203, the authentication program 151 of the management server 14 attests the shop server 4. In step S1301, the authentication program 182 of the shop server 4 attests the management server 14. Processing of the authentication in step S1203 and step S1301 is the same as processing of the authentication in step S1101 and step S1201.

[0139] In step S1204, the contents purchase processing program 152 of the management server 14 transmits the purchase demand of contents with the content ID corresponding to the contents for which it asks to the shop server 4. In step S1302, the contents manager 183 of the shop server 4 receives the purchase demand of the contents transmitted from the management server 14.

[0140] In step S1303, the contents manager 183 of the shop server 4 reads the contents (enciphered) corresponding to the content ID which received by processing of step S1302, and use conditions from the contents database 184, makes the contents key corresponding to the contents supply to the key manager 185, and transmits contents and use conditions to the management server 14. It enciphers with a key temporarily which was generated by processing of authentication of a contents key, and the contents manager 183 transmits to the management server 14.

[0141] In step S1205, the contents purchase processing program 152 of the management server 14 receives the contents which the shop server 4 transmitted, use conditions, and a contents key. The contents purchase processing program 152 decodes a contents key with a key temporarily which was generated by processing of authentication.

[0142] From a portable telephone 11, a personal computer 12, and PDA13, when the purchase of KONNTENTSU is required at coincidence, the management server 14 performs processing of step S1204 thru/or step S1205 to coincidence. The management server 14 distinguishes [of processing of step S1204 performed by coincidence thru/or step S1205] by a port number etc. whether it corresponds to either a portable telephone 11, a personal computer 12 and PDA13, respectively.

[0143] The contents purchase processing program 152 makes contents, a contents key, and use conditions store in the contents database 155 in step S1206.

[0144] The contents purchase processing program 152 makes user ID, use conditions (for example, count which can be checked out), etc. for which the contents manager 154 was asked with reference to the user managed table 161 the content ID corresponding to the contents stored in the contents database 155, and based on the device ID acquired by processing of step S1202 store in the contents managed table

162.

[0145] When the user of a portable telephone 11 purchases the contents whose content ID is "B456" when it is in the condition which the contents managed table 162 shows to drawing 11 before processing of the purchase of contents for example, as shown in drawing 12, the contents managed table 162 is made to correspond to the content ID which is "B456", and "AAA" which is the user ID of the user of a portable telephone 11 is stored in it. Since the newly purchased contents are not checked out, the device ID corresponding to the content ID which is "B456" serves as empty.

[0146] In step S1207, the authentication program 151 of the management server 14 attests the accounting server 5. In step S1401, the authentication program 187 of the accounting server 5 attests the management server 14. Processing of the authentication in step S1207 and step S1401 is the same as processing of the authentication in step S1101 and step S1201.

[0147] In step S1208, the management server 14 pays and a processing program 152 transmits the request to pay to the accounting server 5 through a network 3. The request of payment is enciphered with the key temporarily which was generated by processing of authentication including the number of the credit card of the user of a portable telephone 11 who asked the radical for the device ID acquired by processing of step S1202 with reference to the user managed table 161 etc. In step S1402, the accounting program 188 of the accounting server 5 receives a request of the payment which the management server 14 transmitted. In step S1403, the accounting program 188 of the accounting server 5 ends processing, when the processing demand after the download which performs processing to a credit card company to pay based on the request which received by processing of step S1402, and to pay, and is included in it at a contents demand is null.

[0148] Thus, if the purchase demand of contents is received from a portable telephone 11, the management server 14 will purchase contents from the shop server 4, will record the contents, and will request payment from the accounting server 5.

[0149] In addition, you may make it the purchase directions program 142 of a portable telephone 11 transmit the purchase demand of contents to the management server 14 through a network 3 in step S1102 with the user ID of the user of the content ID corresponding to the contents for which it asks, and a portable telephone 11 etc.

[0150] Next, the processing which he checks out at the same time it purchases the contents performed corresponding to the input of a command, selection of a menu, the click of a carbon button, or the actuation related to the screen on which others are displayed is explained with reference to the flow chart of drawing 13. Since processing of step S2101 thru/or step S2403 is the same as processing of step S1101 of drawing 10 thru/or step S1403 respectively, the explanation is omitted.

[0151] In step S2209, when the processing demands after download of a contents demand are directions of check-out, the contents purchase processing program 152

of the management server 14 directs check-out to the contents manager 154, and the contents manager 154 reads the contents stored in the contents database 155 by processing of step S2206, a contents key, and use conditions from the contents database 155, and transmits it to a portable telephone 11 through a network 3. The contents manager 154 makes the use conditions corresponding to the contents which transmitted to the contents database 155 update in step S2210 while reducing 1 from the count corresponding to the contents which transmitted which is stored in the contents managed table 162 and which can be checked out.

[0152] In step S2103, the contents manager 144 of a portable telephone 11 receives the contents which the management server 14 transmitted, a contents key, and use conditions. The contents manager 144 of a portable telephone 11 makes the storage section 39 memorize the contents which received by processing of step S2103, a contents key, and use conditions in step S2104.

[0153] When the purchase directions program 142 of a portable telephone 11 transmits the purchase demand of contents to the management server 14 through a network 3 in step S2102 with the user ID of the user of the content ID corresponding to the contents for which it asks, and a portable telephone 11 etc., processing of step S2103 thru/or step S2212 is performed.

[0154] In step S2105, the contents manager 144 of a portable telephone 11 transmits the device ID of the portable telephone 11 memorized beforehand to the management server 14 through a network 3. In step S2211, the contents manager 154 of the management server 14 receives the device ID of a portable telephone 11. In step S2212, the contents manager 154 of the management server 14 is made to run on the content ID of the contents which transmitted by processing of step S2209, records the device ID of a portable telephone 11 on the contents managed table 162, and ends processing.

[0155] In addition, you may make it the contents manager 154 of the management server 14 record ID of a portable telephone 201 which received by processing of authentication on the contents managed table 162 in step S2212. Moreover, you may make it the contents manager 154 of the management server 14 record the device ID for which it asked with reference to the user managed table 161 based on the user ID acquired by processing of step S2202 on the contents managed table 162 in step S2212.

[0156] Thus, a portable telephone 11 can make a portable telephone 11 check out the contents from the management server 14 while it only requires the purchase of desired contents of the management server 14 and makes the management server 14 record desired contents on it.

[0157] Next, the processing which checks out contents is explained to a portable telephone 11 with reference to the flow chart of drawing 14 from the management server 14. In step S3101, the authentication program 141 of a portable telephone 11

attests the management server 14 through a network 3. In step S3201, the authentication program 151 of the management server 14 attests a portable telephone 11.

[0158] Processing of authentication of step S3101 and step S3201 is the same as processing of authentication of step S1101 and step S1201.

[0159] In step S3102, the display operator guidance program 143 of a portable telephone 11 transmits the demand (the user ID of the user of a portable telephone 11 is contained) of the list of contents to the management server 14 through a network 3. In step S3202, the contents manager 154 of the management server 14 receives the demand of the list of contents.

[0160] In step S3203 the contents manager 154 of the management server 14 The contents corresponding to the user ID of the user of the contents managed table 162 to the portable telephone 11 based on the user ID which received by processing of step S3202, That is, the data of the contents which the user of a portable telephone 11 purchased are read, and the list (it consists of music names of the contents etc.) of the contents which the user of a portable telephone 11 purchased is transmitted to a portable telephone 11 through a network 3. In step S3103, the display operator guidance program 143 of a portable telephone 11 receives the list of the contents which the user of a portable telephone 11 purchased.

[0161] In step S3104, the display operator guidance program 143 of a portable telephone 11 displays the list of contents on a display 36, and chooses the contents in a list based on the signal from the input section 35 corresponding to actuation of the user of a portable telephone 11.

[0162] In this case, by making the device ID which the contents managed table 162 illustrated to drawing 15 makes correspond to content ID, and is recording and which checked out those contents correspond to the music name of those contents, and transmitting to a portable telephone 11, as a portable telephone 11 is shown in drawing 16, the contents manager 154 can be made to be able to respond to a display 36 at the music name of contents, and can display the device ID of a check-out place.

[0163] By such display, the user of a portable telephone 11 can also know the device which checked out desired contents.

[0164] In step S3105, the contents manager 144 transmits the demand (user ID and the selected content ID of contents are contained) of check-out of the contents chosen by processing of step S3104 to the management server 14 through a network 3. In step S3204, the contents manager 154 of the management server 14 receives the demand of check-out of contents.

[0165] In step S3205 the contents manager 154 of the management server 14 It judges whether the number of check-out of the contents demanded based on the data stored in the contents manager 162 is one or more. The user ID contained in the demand of check-out when judged with it being one or more, And based on content ID,

the contents as which check-out was required, the contents key corresponding to the contents, and use conditions are read from the contents database 155, and it transmits to a portable telephone 11 through a network 3. The contents manager 154 makes the use conditions corresponding to the contents which transmitted to the contents database 155 update in step S3206 while reducing 1 from the count corresponding to the contents which transmitted which is stored in the contents managed table 162 and which can be checked out.

[0166] In step S3106, the contents manager 144 of a portable telephone 11 receives the contents which the management server 14 transmitted, a contents key, and use conditions. The contents manager 144 of a portable telephone 11 makes the storage section 39 memorize the contents which received by processing of step S3106, a contents key, and use conditions in step S3107.

[0167] In step S3108, the contents manager 144 of a portable telephone 11 transmits the device ID of the portable telephone 11 memorized beforehand to the management server 14 through a network 3. In step S3207, the contents manager 154 of the management server 14 receives the device ID of a portable telephone 11. In step S3208, the contents manager 154 of the management server 14 is made to run on the content ID of the contents which transmitted by processing of step S3205, records the device ID of a portable telephone 11 on the contents managed table 162, and ends processing.

[0168] As mentioned above, the management server 14 can check out the contents which the user of a portable telephone 11 purchased to a portable telephone 11 corresponding to the demand from a portable telephone 11.

[0169] In addition, a portable telephone 11 transmits the demand of the check-out which contained content ID and Device ID in the management server 14, and you may make it the management server 14 ask for user ID based on Device ID and the user managed table 161.

[0170] Next, after checking in at the contents which the portable telephone 11 has memorized, the processing which checks out desired contents is explained with reference to the flow chart of drawing 17. Since processing of step S4101 thru/or step S4103 is the same as processing of step S3101 of drawing 14 thru/or step S3103, the explanation is omitted.

[0171] In step S4104, the display operator guidance program 143 of a portable telephone 11 displays the list of contents on a display 36, and chooses the contents at which he checks in and the contents to check out under list based on the signal from the input section 35 corresponding to actuation of the user of a portable telephone 11.

[0172] In step S4105, the contents manager 144 of a portable telephone 11 transmits the demand (user ID and the content ID of contents at which he checks in are contained) of check-in of the contents memorized by the storage section 39 to the

management server 14 through a network 3. In step S4106, the contents manager 144 of a portable telephone 11 eliminates the contents memorized by the storage section 39.

[0173] In step S4204, the contents manager 154 of the management server 14 receives the demand of check-in of contents. The contents manager 154 makes the use conditions corresponding to the contents which checked in at the contents database 155 update in step S4205 while adding 1 to the count corresponding to the user ID and content ID which are stored in the contents managed table 162 and which are contained in the demand of the check-in which received which can be checked out.

[0174] the case where he is checked out by the portable telephone 11 (Device ID is "X789") before processing of check-in of contents in the contents whose content ID is "A123" -- drawing 18 -- **, like, the count corresponding to the content ID of "A123" of the contents managed table 162 which can be checked out is set as 2, and "X789" is set to the device ID corresponding to the content ID of "A123."

[0175] When you check in at the contents which are "A123" from a portable telephone 11, as it is shown in drawing 19 , 1 is added, the count corresponding to the content ID which is the user ID which is "AAA" of the contents managed table 162, and "A123" which can be checked out is set to 3, and the device ID corresponding to the content ID which is the user ID which is "AAA", and "A123" serves as empty.

[0176] In step S4206, the contents manager 154 eliminates the device ID corresponding to the content ID contained in the demand of the check-in which received stored in the contents managed table 162.

[0177] Since processing of step S4107 thru/or step S4211 is the same as processing of step S3105 of drawing 14 thru/or step S3208, the explanation is omitted.

[0178] Since he is checked out in contents after a portable telephone 11 checks in at contents, the opening of the storage space of the storage section 39 of a portable telephone 11 can check out contents comparatively at least.

[0179] When you check out the contents which are "B456" to a portable telephone 11 from the condition corresponding to the contents managed table 162 shown in drawing 19 , as shown in drawing 20 , 1 is subtracted, the count corresponding to the content ID which is the user ID which is "AAA" of the contents managed table 162, and "B456" which can be checked out is set to 2, and "X789" is set to the device ID corresponding to the content ID which is "B456."

[0180] Thus, after a portable telephone 11 checks in at the memorized contents, the management server 14 can check out the contents which the user of a portable telephone 11 purchased to a portable telephone 11 corresponding to the demand from a portable telephone 11.

[0181] Next, with reference to drawing 21 , the example of the configuration of the 2nd function of the digital data transmission system of this application is explained. The

same number is given to the same part as the case where it is shown in drawing 7, and the explanation is omitted.

[0182] The contents manager 191 receives the use conditions of the contents key and contents which the management server 14 transmitted etc., when check-out of desired contents is required of the management server 14. The contents manager 191 receives the contents which the shop server 4 transmitted, it makes the contents which received correspond to a contents key and use conditions, and the storage section 39 is made to memorize it.

[0183] The contents manager 191 makes the storage section 39 update the use conditions corresponding to the contents corresponding to playback of the contents memorized in the storage section 39 etc. while performing management of whether playback of the contents memorized by the storage section 39 etc. is permitted based on the use conditions of the contents memorized by the storage section 39, or to forbid.

[0184] The contents manager 191 eliminates the contents which are memorized by the storage section 39 and which required check-in, a contents key, and use conditions, when check-in of desired contents is required of the management server 14.

[0185] The contents purchase processing program 192 of the management server 14 transmits the demand of the purchase of the contents to the shop server 4 corresponding to the demand of the purchase of the desired contents transmitted from a portable telephone 11, a personal computer 12, or PDA13. When a contents key and use conditions are transmitted from the shop server 4, the contents purchase processing program 192 receives the contents key and use conditions, and makes the contents key and use conditions which were received record on the contents manager 193.

[0186] When contents are purchased, the contents manager 193 is made to run on the user ID of the user who purchased the contents, and stores the content ID which specifies the purchased contents, and its use condition (for example, count which can be checked out) in the contents managed table 194 while recording a contents key and use conditions.

[0187] As shown in drawing 22, the contents managed table 194 makes it correspond to a portable telephone 11, a personal computer 12, or the user ID that specifies the user of PDA13, and stores content ID, the contents supply former address, the count that is an example of use conditions and that can be checked out, or Device ID.

[0188] In the example shown in drawing 22, for example, the user ID of the user who purchased the contents whose content ID is "A123" The contents supply former address which shows the address of the server which supplies the contents whose content ID it is "AAA" and is "A123" It is "aaa" (for example, URL of the shop server 4 (Uniform Resource Locator)). The device ID of the device by which he is checked

out in the contents whose content ID the count of the contents whose content ID is "A123" which can be checked out is 2 times, and is "A123" is "X789" (for example, it corresponds to a portable telephone 11).

[0189] When there is a demand of the purchase of contents from the management server 14, the contents manager 195 of the shop server 4 reads the use conditions of contents from the contents database 184, reads the contents key corresponding to the contents from the key manager 185, and transmits to the management server 14 through a network 3. When there is a demand of transmission of contents from a portable telephone 201, the contents manager 195 reads contents from the contents database 184, and transmits to a portable telephone 11 through a network 3.

[0190] Next, processing of the purchase of the contents of the management server 14 in the digital data transmission system which has the configuration of the function shown in drawing 21 is explained with reference to the flow chart of drawing 23. Since processing of step S5101 thru/or step S5302 is the same as processing of step S1101 of drawing 10 thru/or step S1302, the explanation is omitted.

[0191] In step S5303, the contents manager 183 of the shop server 4 reads the use conditions of the contents corresponding to the content ID which received by processing of step S5302 from the contents database 184, and transmits use conditions to the management server 14. The contents key corresponding to the contents is made to supply to the key manager 185, it enciphers with a key temporarily which was generated by processing of authentication of a contents key, and the contents manager 195 transmits to the management server 14.

[0192] In step S5205, the contents purchase processing program 192 of the management server 14 receives the use conditions and contents key which the shop server 4 transmitted. The contents purchase processing program 192 decodes a contents key with a key temporarily which was generated by processing of authentication.

[0193] The contents purchase processing program 192 makes a contents key and use conditions store in the contents manager 193 in step S5206.

[0194] The contents purchase processing program 192 makes the content ID corresponding to the contents key and use conditions which were stored in the contents manager 154, the contents supply former address, etc. store in the contents managed table 194.

[0195] In step S5207, the authentication program 151 of the management server 14 attests the accounting server 5. In step S5401, the authentication program 187 of the accounting server 5 attests the management server 14. Processing of the authentication in step S5207 and step S5401 is the same as processing of the authentication in step S1101 and step S1201.

[0196] In step S5208, the management server 14 pays and a processing program 153 transmits the request to pay to the accounting server 5 through a network 3. The

request of payment is enciphered with the key temporarily which was generated by processing of authentication including the number of the credit card of the user of a portable telephone 11 etc. In step S5402, the accounting program 188 of the accounting server 5 receives a request of the payment which the management server 14 transmitted. In step S5403, the accounting program 188 of the accounting server 5 performs processing to a credit card company to pay based on a request of the payment which received by processing of step S5402, and ends processing.

[0197] Thus, if the purchase demand of contents is received from a portable telephone 11, the management server 14 will purchase contents from the shop server 4, will record the use conditions of the contents (contents are not recorded), and will request payment from the accounting server 5.

[0198] Processing of transmission of the use conditions from the management server 14 in the digital data transmission system which has the configuration of the function shown in drawing 21 to a portable telephone 11 is explained with reference to the flow chart of drawing 24. Since processing of step S6101 thru/or step S6104 is the same as processing of step S3101 of drawing 14 thru/or step S3104, the explanation is omitted.

[0199] In step S6105, the contents manager 191 transmits the Request to Send (the content ID of selected contents is contained) of the use conditions corresponding to the contents chosen by processing of step S6104 to the management server 14 through a network 3. In step S6204, the contents manager 193 of the management server 14 receives the Request to Send of the use conditions of contents.

[0200] In step S6205, the contents manager 193 of the management server 14 transmits the use conditions and contents key with which transmission was demanded, and the contents supply former address to a portable telephone 11 through a network 3. The contents manager 193 makes the use conditions transmitted to the contents database 155 update in step S6206 while reducing 1 from the count corresponding to the transmitted use conditions which are stored in the contents managed table 194 which can be checked out.

[0201] In step S6106, the contents manager 191 of a portable telephone 11 receives the contents key which the management server 14 transmitted, use conditions, and the contents supply former address. The contents manager 191 of a portable telephone 11 makes the storage section 39 memorize the contents key received by processing of step S6106, use conditions, and the contents supply former address in step S6107.

[0202] In step S6108, the contents manager 191 of a portable telephone 11 transmits the device ID of the portable telephone 11 memorized beforehand to the management server 14 through a network 3. In step S6207, the contents manager 193 of the management server 14 receives the device ID of a portable telephone 11. In step S6208, the contents manager 193 of the management server 14 is made to run on the

content ID corresponding to the use conditions transmitted by processing of step S6205, records the device ID of a portable telephone 11 on the contents managed table 194, and ends processing.

[0203] As mentioned above, the management server 14 can transmit the use conditions of the contents which the user of a portable telephone 11 purchased to a portable telephone 11 corresponding to the demand from a portable telephone 11.

[0204] The processing whose portable telephone 11 which memorized the use conditions of contents in the digital data transmission system which has the configuration of the function shown in drawing 21 reproduces contents is explained with reference to the flow chart of drawing 25. In step S7101, the display operator guidance program 143 displays on a display 36 the music name of the contents which have memorized use conditions etc., and chooses the contents to reproduce based on the signal from the input section 35 corresponding to actuation of a user. In step S7102, when it judges whether the contents manager 191 has refreshable contents and is judged with it being refreshable, the Request to Send of the contents chosen as the shop server 4 supplied to the contents supply former address is transmitted through a network 3.

[0205] In step S7301, the contents manager 195 of the shop server 4 receives the Request to Send of the contents from a portable telephone 11. In step S7302, the contents manager 195 of the shop server 4 reads the contents (enciphered) corresponding to the Request to Send from a portable telephone 11 from the contents database 184, and transmits to a portable telephone 11 through a network 3.

[0206] In step S7103, the contents playback program 145 of a portable telephone 11 receives the contents which the shop server 4 transmitted. In step S7104, the contents playback program 145 of a portable telephone 11 reproduces the contents which received, and ends processing.

[0207] After memorizing the contents which received in processing of step S7103 in the storage section 39, you may reproduce in processing of step S7104, or the so-called in-stream playback may be performed.

[0208] As mentioned above, the management server 14 does not need to record only the use conditions corresponding to the purchased contents, and does not need to record the purchased contents. The management server 14 transmits use conditions to a portable telephone 11, when a portable telephone 11 reproduces contents.

[0209] A portable telephone 11 can reproduce the contents which received based on the use conditions which received direct contents from the shop server 4, and were received from the management server 14, when reproducing contents.

[0210] In addition, the management servers 14 are the processing to a portable telephone 11, and the same processing, corresponding to the demand from a personal computer 12 or PDA13, purchase contents or check out contents.

[0211] Next, the gestalt of other operations of a digital data transmission system is

explained. Drawing 26 is drawing showing the gestalt of other operations of the digital data transmission system concerning this invention. The same number as the case of drawing 4 is given to the same part as the case of a configuration of that drawing 4 explained, and the explanation is omitted.

[0212] A portable telephone 201 is constituted possible [wearing of the portable media 202], and is connected to a network 3 by wireless. The portable media 202 equipped with the contents (compressed and enciphered by the predetermined method) by which the management server 14 was checked out with the use condition are made to memorize a portable telephone 201 through a network 3.

[0213] The portable media 202 have storages, such as a flash memory, in the interior, and are constituted by the portable telephone 201 removable.

[0214] Based on the use conditions corresponding to contents, a portable telephone 201 is reproduced and outputs the contents memorized by the portable media 202 with which it is equipped to headphone or a loudspeaker etc. which is not illustrated. Walking around with a portable telephone 201, a user can check out desired contents from the management server 14 in a desired location, and can make the portable media 202 memorize the contents. A user can make a portable telephone 201 able to reproduce the contents memorized by the portable media 202, and can listen to the music corresponding to contents etc. by headphone etc.

[0215] The program later mentioned with reference to drawing 28 of a portable telephone 201 consists of module groups which control to be able to use contents only on the use conditions which a copyright person specifies to each contents for the purpose of prevention of infringement of the copyright by unjust secondary use of contents. Playback conditions, copy conditions, migration conditions, or recording conditions of contents etc. are included in use conditions.

[0216] When a portable telephone 201 is equipped with the portable media 202, the program of a portable telephone 201 attests whether the portable media 202 are just, adds the use conditions which the shop server 4 specified by the safe approach to contents (enciphered), and makes contents record on the portable media 202. With processing of migration of contents etc., the program of a portable telephone 201 generates a required key, manages a key or controls the communication link with the portable media 202 connected.

[0217] Drawing 27 is drawing explaining the configuration of a portable telephone 201. Since each of CPU221 thru/or the communications department 228 is the same as that of each of CPU31 in drawing 5 thru/or the communications department 38, the explanation is omitted suitably.

[0218] The voice playback section 227 reproduces the contents memorized by the portable media 202 supplied from the data of a message partner's voice supplied from the communications department 228, or an interface 229, and outputs voice.

[0219] It reads data, such as contents, from the portable media 202 with which it is

equipped, and supplies them to CPU221, RAM223, or the voice playback section 227 while making the portable media 202 equipped with CPU221, RAM223, or the data supplied from the communications department 228 memorize an interface 229.

[0220] Since each of an interface 230 and drive 241 is the same as that of each of the interface 40 of drawing 5, and drive 51, the explanation is omitted.

[0221] Next, with reference to drawing 28, the example of the configuration of the 3rd function of the digital data transmission system of this application is explained. The same number is given to the same part as the case where it is shown in drawing 7, and the explanation is omitted.

[0222] A portable telephone 201 performs the authentication program 261, the purchase directions program 262, the display operator guidance program 263, the contents manager 264, the contents playback program 265, a communications program 266, etc.

[0223] The authentication program 261 attests the portable media 202 with which the portable telephone 201 was equipped while attesting the management server 26 or the shop server 4 through the public line network 121 and a network 3.

[0224] The purchase directions program 262 transmits the demand of the purchase of contents to the management server 14 through the public line network 121 and a network 3.

[0225] The display operator guidance program 263 receives the data (for example, a music name or use conditions etc.) relevant to the contents which the management server 14 stores from the management server 14 through the public line network 121 and a network 3, and displays on a display 36 the data relevant to the contents which the management server 14 is recording.

[0226] The display operator guidance program 263 reads the data (for example, a music name or use conditions etc.) relevant to the contents memorized by the portable media 202 with which it is equipped from the portable media 202 through an interface 229, and is made to display them on a display 36.

[0227] The display operator guidance program 263 makes the contents manager 264 perform processing of check-out etc.; when directions of check-out etc. are inputted corresponding to actuation of the input section 35. The display operator guidance program 263 makes the radical of management of the use of contents based on the use conditions by the contents manager 264 perform processing of playback of the contents memorized by the contents playback program 265 at the portable media 202, when directions of playback of contents are inputted corresponding to actuation of the input section 35.

[0228] The contents manager 264 is a program for requiring check-out or check-in of contents of the management server 14 while managing use of the contents memorized by the portable media 202 based on the use conditions of the contents memorized by the portable media 202.

[0229] The contents manager 264 makes the portable media 202 update the use conditions corresponding to the contents corresponding to playback of the contents memorized to the portable media 202 etc. while performing management of whether playback of the contents memorized by the portable media 202 etc. is permitted based on the use conditions of the contents memorized by the portable media 202, or to forbid.

[0230] When check-out of desired contents is required of the management server 14, the contents manager 264 receives the contents which the management server 14 transmitted, a contents key, the use conditions of contents, etc., is made to run on a contents key and use conditions, and makes the portable media 202 memorize the contents which received.

[0231] The contents manager 264 makes the portable media 202 eliminate the contents which required check-in, a contents key, and use conditions, when check-in of desired contents is required of the management server 14.

[0232] When playback of contents is permitted by the contents manager 264, the contents playback program 265 decodes the contents memorized by the portable media 202, and makes the voice corresponding to contents output to the voice playback section 37.

[0233] A communications program 266 is a program for connecting with ISP122 through the public line networks 121, such as PHS or IMT. A communications program 266 is a program for communicating with the portable media 202 through an interface 230 while it includes procedures, such as IP, HTTP, and Wap, and communicates with the shop server 4, the accounting server 5, the management server 14, etc. through a network 3.

[0234] When the authentication program 261 thru/or the contents manager 264 give a demand etc. for the demand of the purchase of contents, or check-out of contents to the management server 14 through the public line network 121 and a network 3, the authentication program 261 thru/or the contents manager 264 make the data which were made to transmit the data corresponding to a demand etc. for the demand of the purchase of contents, or check-out of contents to a communications program 266, and the management server 14 transmitted to it receive. The portable media 202 perform the authentication program 281, the contents manager 282, and a communications program 266.

[0235] The authentication program 281 attests a portable telephone 201.

[0236] The contents manager 282 memorizes contents, a contents key, and the use conditions corresponding to contents, and controls read-out of contents etc. based on use conditions. The contents manager 282 enciphers, memorizes and manages the contents key supplied from the portable telephone 201 with the key for preservation memorized beforehand. A communications program 266 is a program for communicating with a portable telephone 201 through the interface 229 of a portable

telephone 201.

[0237] When the contents which the contents database 155 purchased, a contents key, and use conditions are stored, the contents manager 291 is made to run on the user ID of the user who purchased the contents, and stores the content ID which specifies the purchased contents, and its use condition in the contents managed table 292.

[0238] As shown in drawing 29, the contents managed table 292 makes it correspond to a portable telephone 201, a personal computer 12, or the user ID that specifies the user of PDA13, and stores content ID, the count which is an example of use conditions and which can be checked out, Device ID, or Medium ID.

[0239] The count which can be checked out shows the count which can check out the contents corresponding to content ID. Device ID is ID which specifies the devices (for example, a personal computer 12 or PDA13 etc.) which checked out the contents. Medium ID is ID which specifies media, such as the portable media 202 which checked out the contents.

[0240] The contents manager 291 stores the medium ID of the medium in the medium ID of the contents managed table 292, when you check out the contents to a removable medium, and when you check out the contents to the device (device by which a user cannot detach and attach a medium by the usual approach) having a medium, it stores the device ID of the device in the device ID of the contents managed table 292.

[0241] When Device ID and Medium ID change a method, respectively (for example, the number of bits is changed), you may make it, as for the contents manager 291, the ID identify whether they are either Device ID and the medium ID.

[0242] Or the device ID to be used and Medium ID are beforehand recorded on the user managed table 161 with the discernment data (it is shown that they are either Device ID and the medium ID), and the contents manager 291 may be [whether the ID is either Device ID and the medium ID and] made to identify with reference to the user managed table 161.

[0243] For example, in the example shown in drawing 29, the medium ID of the medium by which he is checked out in the contents whose content ID the count of the contents whose content ID the user ID of the user who purchased the contents whose content ID is "A123" is "AAA", and is "A123" which can be checked out is 2 times, and is "A123" is "AZ555" (for example, it corresponds to the portable media 202).

[0244] The devices ID by which he is checked out in the contents whose content ID the count of the contents whose content ID the user ID of the user who purchased the contents whose content ID is "B456" is "AAA", and is "B456" which can be checked out is 1 time, and is "B456" are "X789" (for example, it corresponds to a portable telephone 11), and "Z213."

[0245] When the contents manager 291 has the demand (content ID and Device ID, or Medium ID is attached) of the check-out from a portable telephone 201, a personal computer 12, or PDA13, Based on the data stored in the contents managed table 292, it judges whether it is the demand from the user who purchased the contents. When judged with it being the demand from the user who purchased the contents, it judges further whether the count which can check out the contents is one or more based on use conditions.

[0246] When judged with the count which can check out the contents being one or more, the contents manager 291 reads the contents corresponding to content ID, a contents key, and use conditions from the contents database 155, and transmits to the portable telephone 201 which required check-out, a personal computer 12, or PDA13 through a network 3.

[0247] The contents manager 291 records Device ID or Medium ID on the contents managed table 292 while reducing 1 from the count corresponding to contents which is stored in the contents managed table 292 and which can be checked out, when contents are transmitted to a portable telephone 201, a personal computer 12, or PDA13.

[0248] When the contents manager 291 has the demand of check-in of a portable telephone 201, a personal computer 12, or PDA13 to contents to contents, Based on the user ID and content ID which received with the demand and Device ID, or Device ID While adding 1 to the count corresponding to the contents at which he checks in which is stored in the contents managed table 292 and which can be checked out The device ID of the device which required check-in, or the medium ID of a medium is eliminated from Device ID or Medium ID of the contents managed table 292.

[0249] Next, processing of the purchase of contents in the digital data transmission system which has the configuration of the function shown in drawing 28 is explained with reference to the flow chart of drawing 30 . Since processing of step S8101 thru/or step S8403 is the same as processing of step S1101 of drawing 10 thru/or step S1403, the explanation is omitted.

[0250] Next, other processings of the purchase of contents in the digital data transmission system which has the configuration of the function shown in drawing 28 are explained with reference to the flow chart of drawing 31 . Since processing of step S9101 thru/or step S9103 is the same as processing of step S2101 thru/or step S2103 shown in drawing 13 , the explanation is omitted.

[0251] The contents manager 264 of a portable telephone 201 makes the contents which received by processing of step S9103 to the communications program 266, a contents key, and the use conditions of contents transmit to the portable media 202 in step S9104. In step S9501, the contents manager 282 of the portable media 202 receives the contents which the portable telephone 201 transmitted, a contents key, and the use conditions of contents.

[0252] In step S9502, the contents manager 282 of the portable media 202 memorizes the contents which received by processing of step S9501, a contents key, and the use conditions of contents.

[0253] In step S9105, the contents manager 264 of a portable telephone 201 transmits the medium ID of the portable media 202 with the portable media 202 acquired by processing (it performs when a portable telephone 201 is equipped with the portable media 202) of authentication to the management server 14 through a network 3. In step S9211, the contents manager 291 of the management server 14 receives the medium ID of the portable media 202. In step S9212, the contents manager 291 of the management server 14 is made to run on the content ID of the contents which transmitted by processing of step S9209, records the medium ID of the portable media 202 on the contents managed table 292, and ends processing.

[0254] Thus, a portable telephone 201 can make the portable media 202 check out the contents from the management server 14 while it only requires the purchase of desired contents of the management server 14 and makes the management server 14 record desired contents on it.

[0255] Next, processing of the check-out of contents in the digital data transmission system which has the configuration of the function shown in drawing 28 is explained with reference to the flow chart of drawing 32. Since processing of step S10101 thru/or step S10106 is the same as processing of step S3101 of drawing 14 thru/or step S3106, the explanation is omitted.

[0256] The contents manager 264 of a portable telephone 201 makes the contents which received by processing of step S10106 to the communications program 266, a contents key, and the use conditions of contents transmit to the portable media 202 in step S10107. In step S10501, the contents manager 282 of the portable media 202 receives the contents which the portable telephone 201 transmitted, a contents key, and the use conditions of contents.

[0257] In step S10502, the contents manager 282 of the portable media 202 memorizes the contents which received by processing of step S10501, a contents key, and the use conditions of contents.

[0258] In step S10108, the contents manager 264 of a portable telephone 201 transmits the medium ID of the portable media 202 with the portable media 202 acquired by processing (it performs when a portable telephone 201 is equipped with the portable media 202) of authentication to the management server 14 through a network 3. In step S10207, the contents manager 291 of the management server 14 receives the medium ID of the portable media 202. In step S10208, the contents manager 291 of the management server 14 is made to run on the content ID of the contents which transmitted by processing of step S10205, records the medium ID of the portable media 202 on the contents managed table 292, and ends processing.

[0259] Thus, the management server 14 can check out the contents which the user of

a portable telephone 11 purchased to the portable media 202 corresponding to the demand from a portable telephone 11.

[0260] Next, after checking in at the contents in the digital data transmission system which has the configuration of the function shown in drawing 28 which the portable telephone 11 has memorized, the processing which checks out desired contents is explained with reference to the flow chart of drawing 33. Since processing of step S11101 thru/or step S11104 is the same as processing of step S4101 of drawing 17 thru/or step S4104, the explanation is omitted.

[0261] In step S11105, the contents manager 264 of a portable telephone 201 transmits the demand (the content ID of user ID, Medium ID, and the contents at which he checks in is contained) of check-in of the contents memorized by the portable media 202 to the management server 14 through a network 3.

[0262] In step S11204, the contents manager 291 of the management server 14 receives the demand of check-in of contents. The contents manager 291 makes the use conditions corresponding to the contents which checked in at the contents database 155 update in step S11205 while adding 1 to the count corresponding to the content ID and user ID which are stored in the contents managed table 292 and which are contained in the demand of the check-in which received which can be checked out.

[0263] In step S11206, the contents manager 291 eliminates the medium ID corresponding to the content ID and user ID which are stored in the contents managed table 292 and which are contained in the demand of the check-in which received.

[0264] In step S11106, the contents manager 264 of a portable telephone 201 transmits the demand of elimination of contents to the portable media 202. In step S11502, the contents manager 262 of the portable media 202 eliminates contents.

[0265] Since processing of step S11107 thru/or step S11211 is the same as processing of step S10105 of drawing 32 thru/or step S10208, the explanation is omitted.

[0266] Thus, after a portable telephone 201 checks in at the contents memorized by the portable media 202, the management server 14 can check out the contents which the user of a portable telephone 11 purchased to the portable media 202 corresponding to the demand from a portable telephone 201.

[0267] Next, with reference to drawing 34, the example of the configuration of the 4th function of the digital data transmission system of this application is explained. The same number is given to the same part as the case where it is shown in drawing 28, and the explanation is omitted.

[0268] The contents manager 321 receives the use conditions of the contents key and contents which the management server 14 transmitted etc., when check-out of desired contents is required of the management server 14. When check-out of desired

contents is required of the management server 14, the contents manager 321 receives the contents which the shop server 4 transmitted, it makes the contents which received correspond to a contents key and use conditions, and the portable media 202 are made to memorize it.

[0269] The contents manager 321 makes the portable media 202 update the use conditions corresponding to the contents corresponding to playback of the contents memorized to the portable media 202 etc. while performing management of whether playback of the contents memorized by the portable media 202 etc. is permitted based on the use conditions of the contents memorized by the portable media 202, or to forbid.

[0270] The contents manager 321 makes the portable media 202 eliminate the contents which required check-in, a contents key, and use conditions, when check-in of desired contents is required of the management server 14.

[0271] The contents purchase processing program 331 of the management server 14 transmits the demand of the purchase of the contents to the shop server 4 corresponding to the demand of the purchase of the desired contents transmitted from a portable telephone 201, a personal computer 12, or PDA13. When a contents key and use conditions are transmitted from the shop server 4, the contents purchase processing program 152 receives the contents key and use conditions, and makes the contents key and use conditions which were received record on the contents manager 332.

[0272] When contents are purchased, the contents manager 332 is made to run on the user ID of the user who purchased the contents, and stores the content ID which specifies the purchased contents, and its use condition (for example, count which can be checked out) in the contents managed table 333 while recording a contents key and use conditions.

[0273] As shown in drawing 35, the contents managed table 333 makes it correspond to a portable telephone 201, a personal computer 12, or the user ID that specifies the user of PDA13, and stores content ID, the contents supply former address, the count that is an example of use conditions and that can be checked out, Device ID, or Medium ID.

[0274] In the example shown in drawing 35, for example, the user ID of the user who purchased the contents whose content ID is "A123" The contents supply former address which shows the address of the server which supplies the contents whose content ID it is "AAA" and is "A123" The count of the contents whose content ID it is "aaa" (for example, URL of the shop server 4), and is "A123" which can be checked out The medium ID of the medium by which he is checked out in the contents whose content ID it is 2 times and is "A123" is "AZ555" (for example, it corresponds to the portable media 202).

[0275] When there is a demand of the purchase of contents from the management

server 14, the contents manager 341 of the shop server 4 reads the use conditions of contents from the contents database 184, reads the contents key corresponding to the contents from the key manager 185, and transmits use conditions and a contents key (enciphered with the key temporarily) to the management server 14 through a network 3. When there is a demand (the address of a portable telephone 201 is included) of transmission of contents from the management server 14, the contents manager 341 reads contents from the contents database 184, and transmits to a portable telephone 201 through a network 3.

[0276] Next, processing of the purchase of contents in the digital data transmission system which has the configuration of the function shown in drawing 34 is explained with reference to the flow chart of drawing 36. Since processing of step S12101 thru/or step S12403 is the same as processing of step S5101 thru/or step S5403 shown in drawing 23, the explanation is omitted.

[0277] Next, processing of the check-out of contents in the digital data transmission system which has the configuration of the function shown in drawing 34 is explained with reference to the flow chart of drawing 37. In step S13101, the authentication program 261 of a portable telephone 201 attests the management server 14 through a network 3. In step S13201, the authentication program 151 of the management server 14 attests a portable telephone 201.

[0278] Processing of authentication of step S13101 and step S13201 is the same as processing of authentication of step S1101 and step S1201.

[0279] In step S13102, the display operator guidance program 263 of a portable telephone 201 transmits the demand (the user ID of the user of a portable telephone 201 is contained) of the list of contents to the management server 14 through a network 3. In step S13202, the contents manager 332 of the management server 14 receives the demand of the list of contents.

[0280] In step S13203 the contents manager 332 of the management server 14 The contents corresponding to the user ID of the user of the contents managed table 333 to the portable telephone 201 based on the user ID which received by processing of step S13202, That is, the data of the contents which the user of a portable telephone 201 purchased are read, and the list (it consists of music names of the contents etc.) of the contents which the user of a portable telephone 201 purchased is transmitted to a portable telephone 201 through a network 3. In step S13103, the display operator guidance program 263 of a portable telephone 201 receives the list of the contents which the user of a portable telephone 201 purchased.

[0281] In step S13104, the display operator guidance program 263 of a portable telephone 201 displays the list of contents on a display 226, and chooses the contents in a list based on the signal from the input section 225 corresponding to actuation of the user of a portable telephone 201.

[0282] In this case, by making the device ID which checked out those contents or

Medium ID which the contents managed table 333 illustrated to drawing 35 makes correspond to content ID, and is recording correspond to the music name of those contents, and transmitting to a portable telephone 201, the contents manager 332 can make a portable telephone 201 able to respond to a display 226 at the music name of contents, and can display Device ID or Medium ID of a check-out place.

[0283] By such display, the user of a portable telephone 201 can also know the device or medium which checked out desired contents.

[0284] In step S13105, the contents manager 321 transmits the demand (the content ID of selected contents is contained) of check-out of the contents chosen by processing of step S13104 to the management server 14 through a network 3. In step S13204, the contents manager 332 of the management server 14 receives the demand of check-out of contents.

[0285] In step S13205, the contents manager 332 of the management server 14 transmits the use conditions and contents key of the contents as which check-out was required to a portable telephone 201 through a network 3. In step S13206, the contents manager 332 reduces 1 from the count corresponding to the transmitted use conditions which are stored in the contents managed table 333 which can be checked out.

[0286] In step S13106, the contents manager 321 of a portable telephone 201 receives the use conditions and contents key of the contents which the management server 14 transmitted.

[0287] In step S13207, the contents manager 332 of the management server 14 transmits the Request to Send (the address of content ID and a portable telephone 201 is included) of contents to the shop server 4 through a network 3. In step S13301, the contents manager 341 of the shop server 4 reads the contents (enciphered) corresponding to the content ID contained in the Request to Send of contents from the contents database 184, and transmits to a portable telephone 201 through a network 3.

[0288] In step S13107, the contents manager 321 of a portable telephone 201 receives the contents transmitted from the shop server 4.

[0289] The contents manager 321 of a portable telephone 201 makes the contents which received by processing of step S13107 to the communications program 266, the contents key received by processing of step S13106 in the list, and the use conditions of contents transmit to the portable media 202 in step S13108. In step S13501, the contents manager 282 of the portable media 202 receives the contents which the portable telephone 201 transmitted, a contents key, and the use conditions of contents.

[0290] In step S13502, the contents manager 282 of the portable media 202 memorizes the contents which received by processing of step S13501, a contents key, and the use conditions of contents.

[0291] In step S13109, the contents manager 321 of a portable telephone 201 transmits the medium ID of the portable media 202 with the portable media 202 acquired by processing (it performs when a portable telephone 201 is equipped with the portable media 202) of authentication to the management server 14 through a network 3. In step S13208, the contents manager 332 of the management server 14 receives the medium ID of the portable media 202. In step S13209, the contents manager 332 of the management server 14 is made to run on the content ID of use conditions which transmitted by processing of step S13205, records the medium ID of the portable media 202 on the contents managed table 333, and ends processing.

[0292] In addition, you may make it the contents manager 321 read contents from the optical disks 62, such as CD with which the drive 241 was equipped, etc. If it is the contents by which copyright management was carried out, the contents outputted from CD are reproducible with a portable telephone.

[0293] Next, with reference to drawing 38, the example of the configuration of the 5th function of the digital data transmission system of this application is explained. The same number is given to the same part as the case where it is shown in drawing 28, and the explanation is omitted.

[0294] The purchase program 351 transmits the purchase demand of contents to the shop server 4 with the address of the management server 14 through the public line network 121 and a network 3. The demand of the purchase of the contents which the purchase program 351 transmits contains the user ID of the content ID of the contents for which it asks, the device ID of a portable telephone 201, and the user of a portable telephone 201.

[0295] The contents manager 352 of the shop server 4 When the purchase demand of contents is received from the purchase program 351, contents and the use conditions of the contents are read from the contents database 184. The contents key corresponding to the contents is read from the key manager 185, and contents, a contents key (enciphered with the key temporarily), and use conditions are transmitted to the management server 14 through a network 3 based on the address of the management server 14 which both received.

[0296] After contents, a contents key, and use conditions are transmitted to the management server 14 from the shop server 4 corresponding to the purchase demand of contents, the purchase program 351 transmits a request of payment to the accounting server 5.

[0297] Next, a portable telephone 201 requires purchase of the shop server 4, and processing of the purchase of contents in the case of transmitting the request paid to the accounting server 5 is explained with reference to the flow chart of drawing 39. In step S14101, the purchase program 351 of a portable telephone 201 transmits the purchase demand (Device ID and user ID are included) of contents to the shop server 4 through a network 3. In step S14301, the contents manager 352 of the shop server 4

receives the purchase demand of contents.

[0298] In step S14102, the purchase program 351 of a portable telephone 201 transmits the address of the management server 14 to the shop server 4 through a network 3. In step S14302, the contents manager 352 of the shop server 4 receives the address of the management server 14.

[0299] In step S14303, based on the address of the management server 14 which received by processing of step S14302, the authentication program 182 of the shop server 4 establishes connection with the management server 14, and attests the management server 14. In step S14201, the authentication program 151 of the management server 14 attests the shop server 4.

[0300] Processing of step S14303 and step S14201 is the same as processing of step S1101 and step S1201.

[0301] The contents manager 352 reads the contents (enciphered) corresponding to the content ID which received by processing of step S14301, and use conditions from the contents database 184, and makes the contents key corresponding to the contents supply to the key manager 185 in step S14304. The contents manager 352 transmits contents and use conditions to the management server 14 with Device ID and user ID. It enciphers with a key temporarily which was generated by processing of authentication of a contents key, and the contents manager 352 transmits to the management server 14.

[0302] In step S14202, the contents manager 291 of the management server 14 receives the contents which the shop server 4 transmitted, use conditions, and a contents key. The contents manager 291 decodes a contents key with a key temporarily which was generated by processing of authentication.

[0303] The contents database 155 is made to correspond to Device ID and user ID, and the contents manager 291 makes contents, a contents key, and use conditions store in it in step S14203.

[0304] In step S14204, the contents manager 291 of the management server 14 transmits the notice of reception termination of contents to a portable telephone 201 through a network 3. In step S14103, the purchase program 351 of a portable telephone 201 receives the notice of reception termination of contents.

[0305] In step S14104, the authentication program 261 of a portable telephone 201 attests the accounting server 5. In step S14401, the authentication program 187 of the accounting server 5 attests a portable telephone 201. Processing of the authentication in step S14104 and step S14401 is the same as processing of the authentication in step S1101 and step S1201.

[0306] In step S14105, the purchase program 351 of a portable telephone 201 transmits the request to pay to the accounting server 5 through a network 3. The request of payment is enciphered with the key temporarily which was generated by processing of authentication including the number of the credit card of the user of a

portable telephone 201 etc. In step S14402, the accounting program 188 of the accounting server 5 receives a request of the payment which the portable telephone 201 transmitted. In step S14403, the accounting program 188 of the accounting server 5 performs processing to a credit card company to pay based on a request of the payment which received by processing of step S14402, and ends processing.

[0307] Thus, the purchase demand of contents is transmitted to the shop server 4, the management server 103 receives contents from the shop server 4, and a portable telephone 201 records the contents. A portable telephone 201 requests payment from the accounting server 5.

[0308] Moreover, although it explained that contents were data of musical sound, the data of not only the data of musical sound but a static image, the data of a dynamic image, the data of a text, or a program may be used.

[0309] In addition, although a portable telephone 11, a personal computer 12, or PDA13 explained that contents were memorized, you may make it check out contents not only to a portable telephone 11, a personal computer 12, or PDA13 but to a digital video cassette recorder with an image pick-up function with communication facility or electronic notebook equipment with communication facility etc.

[0310] Moreover, although it explained that a portable telephone 11, a personal computer 12, PDA13, or a portable telephone 201 communicated by PHS or IMT PHS or not only IMT but W-CDMA (Code Division Multiple Access), Satellite communication, satellite broadcasting service, PSTN (Public Switched telephone network), You may make it communicate in xDSL (x Digital Subscriber Line), ISDN (Integrated Services Digital Network), or a private network.

[0311] Although a series of processings mentioned above can also be performed by hardware, they can also be performed with software. When performing a series of processings with software, the program which constitutes the software is installed in a general-purpose personal computer etc. from a program storing medium possible [performing various kinds of functions] by installing the computer built into the hardware of dedication, or various kinds of programs.

[0312] The program storing medium which stores the program which is installed in a computer and made into the condition which can be performed by computer As shown in drawing 5 or drawing 6 , a magnetic disk 61 or a magnetic disk 101 (all contain a floppy disk), an optical disk 62 or an optical disk 102 (any -- CD-ROM (CompactDisc-Read Only Memory) --) DVD (Digital Versatile Disc) is included. A magneto-optic disk 63 or a magneto-optic disk 103 (all contain MD (Mini-Disc)), Or it is constituted by the package media which consist of semiconductor memory 64 or semiconductor memory 104, ROM32 in which a program is stored temporarily or permanently or ROM82, HDD91, etc. Storing of the program to a program storing medium is performed through the communications department 38 or the communications department 93 using the communication media of cables or wireless,

such as a Local Area Network, the Internet, and digital satellite broadcasting, if needed.

[0313] In addition, in this specification, even if the processing serially performed in accordance with the sequence that the step which describes the program stored in a program storing medium was indicated is not of course necessarily processed serially, it is a juxtaposition thing also including the processing performed according to an individual.

[0314] Moreover, in this specification, a system expresses the whole equipment constituted by two or more equipments.

[0315]

[Effect of the Invention] According to the 1st program, in the information offer equipment of this invention and an approach, the 1st program storing medium, and a list with the user specification data which the user specification data which specify the user of an information processor were made to correspond, and the 1st contents, the 2nd contents, and corresponding storing of use conditions were controlled, and were transmitted from the information processor Reception of the demand of check-in of the 1st contents and a demand of check-out of the 2nd contents is controlled, and it corresponds to the demand of check-in. When check-in of the 1st contents is controlled and check-in of the 1st contents is completed based on the use conditions stored corresponding to user specification data, it corresponds to the demand of check-out. Since check-out of the 2nd contents was controlled based on the use conditions stored corresponding to user specification data In an information processor, even if it is a case with few availabilities of storage, desired contents can be used in a desired location.

[0316] According to the 2nd program, in the information processor of this invention and an approach, the 2nd program storing medium, and a list with the demand of check-in of the 1st contents to information offer equipment Transmission of a demand of check-out of the 2nd contents is controlled, and it is based on control of information offer equipment. Since check-out of the 2nd contents offered from information offer equipment was controlled when check-in of the 1st contents was controlled and check-in of the 1st contents was completed Even if it is a case with few availabilities of storage, desired contents can be used in a desired location.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is drawing showing the configuration of the conventional digital data transmission system.

[Drawing 2] It is a flow chart explaining the processing which purchases the conventional contents.

[Drawing 3] It is a flow chart explaining processing of the conventional check-out.

[Drawing 4] It is drawing showing the gestalt of 1 operation of the digital data transmission system concerning this invention.

[Drawing 5] It is drawing explaining the configuration of a portable telephone 11.

[Drawing 6] It is drawing explaining the configuration of the management server 14.

[Drawing 7] It is drawing explaining the example of the configuration of the 1st function of the digital data transmission system of this application.

[Drawing 8] It is drawing showing the example of the user managed table 161.

[Drawing 9] It is drawing showing the example of the contents managed table 162.

[Drawing 10] It is a flow chart explaining processing of the purchase of contents.

[Drawing 11] It is drawing showing the example of the contents managed table 162.

[Drawing 12] It is drawing showing the example of the contents managed table 162.

[Drawing 13] It is a flow chart explaining the processing which he checks out at the same time it purchases contents.

[Drawing 14] It is a flow chart explaining the processing which checks out contents.

[Drawing 15] It is drawing showing the example of the contents managed table 162.

[Drawing 16] It is drawing showing the example of a display of a display 36.

[Drawing 17] It is a flow chart explaining the processing which checks out contents.

[Drawing 18] It is drawing showing the example of the contents managed table 162.

[Drawing 19] It is drawing showing the example of the contents managed table 162.

[Drawing 20] It is drawing showing the example of the contents managed table 162.

[Drawing 21] It is drawing explaining the example of the configuration of the 2nd function of the digital data transmission system of this application.

[Drawing 22] It is drawing showing the example of the contents managed table 194.

[Drawing 23] It is a flow chart explaining processing of the purchase of contents.

[Drawing 24] It is a flow chart explaining processing of transmission of the use conditions from the management server 14 to a portable telephone 11.

[Drawing 25] The portable telephone 11 which memorized the use conditions of contents is a flow chart explaining the processing which reproduces contents.

[Drawing 26] It is drawing showing the gestalt of other operations of the digital data transmission system concerning this invention.

[Drawing 27] It is drawing explaining the configuration of a portable telephone 201.

[Drawing 28] It is drawing explaining the example of the configuration of the 3rd function of the digital data transmission system of this application.

[Drawing 29] It is drawing showing the example of the contents managed table 292.

[Drawing 30] It is a flow chart explaining processing of the purchase of contents.

[Drawing 31] It is a flow chart explaining other processings of the purchase of contents.

[Drawing 32] It is a flow chart explaining processing of check-out of contents.

[Drawing 33] It is a flow chart explaining the processing which checks out contents.

[Drawing 34] It is drawing explaining the example of the configuration of the 4th function of the digital data transmission system of this application.

[Drawing 35] It is drawing showing the example of the contents managed table 333.

[Drawing 36] It is a flow chart explaining processing of the purchase of contents.

[Drawing 37] It is a flow chart explaining processing of check-out of contents.

[Drawing 38] It is drawing explaining the example of the configuration of the 5th function of the digital data transmission system of this application.

[Drawing 39] It is a flow chart explaining processing of the purchase of contents.

[Description of Notations]

11 Portable Telephone 14 Management Server, 31 CPU 32 ROM and 33 RAM 38 Communications department 39 storage section 61 A magnetic disk and 62 optical disk 63 A magneto-optic disk, 64 Semiconductor memory 81CPU, 82 ROM 83 RAM, 91 HDD 93 The communications department and 101 magnetic disk 102 An optical disk, 103 A magneto-optic disk, 104 Semiconductor memory, 141 Authentication program 142 purchase directions program 145 A contents manager, 151 An authentication program, 152 Contents purchase processing program 153 It pays and is a processing program and 154. A contents manager, 155 Contents database 161 user managed table and 162 Contents managed table 191 Contents manager 192 Contents purchase processing program 193 contents manager 194 A contents managed table, 201 portable telephone 202 Portable media, 221 CPU 222 ROM, 223 RAM 228 The communications department, 229 An interface, 264 Contents manager 291 A contents manager, 292 A contents managed table, 321 Contents manager 331 A contents purchase processing program, 332 A contents manager, 333 Contents managed table 351 Purchase program